Press release

Palsgaard and Korean PE film manufacturer collaborate to optimize the shelf-life, aesthetics, safety & sustainability of sensitive food packaging

**Einar® 611 plant-based food-grade anti-fog additive prevents the condensation of moisture on the inside of film packaging at low concentration levels and improves the sustainability of PE film formulations.**

JUELSMINDE, Denmark, 29 September 2022

Palsgaard, a leader in [plant-based additives](https://www.palsgaard.com/polymers/knowledge-and-innovation/from-food-emulsifiers-to-polymer-additives-the-renewable-technology-of-palsgaard-s-plant-based-additives-for-the-plastics-industry) for the plastics industry, has announced that its

Einar® 611 bio-based anti-fog surfactant has been successfully specified by a major Korean supplier of food-grade polyethylene (PE) film solutions. The customer had been looking for a cold anti-fog additive that would effectively protect the packaged food from spoilage by preventing the formation of condensation droplets on the inside of the film. At the same time, the surfactant had to eliminate regulatory concerns with regard to its chemistry and provide superior functional performance at cost-effectively low concentration.

“*The importance of food packaging and its role is ever-changing, from the mere protection of food items from the outside in nice packaging to concerns about food safety and product shelf life*,” says Ulrik Aunskjaer, Global Business Director for Bio-Specialty Polymer Additives at Palsgaard. “*Our plant-based Einar® 611 anti-fog has proven itself a perfect choice in this PE film application to minimize the risk of moisture accumulating in small reservoirs on the inner surface of the packaging film, where bacteria could grow and then drop down and spoil the food.*”

In an iterative sampling process focused on the customer’s specifications and needs, comprehensive experimental and trial data was shared between the partners to optimize and validate the film solution. In this process, Palsgaard’s [Polymer Application Centre](https://www.palsgaard.com/polymers/knowledge-and-innovation/greetings-from-the-polymer-application-centre) in Denmark provided valuable support in assessing the right concentration level of Einar® 611 in this cold anti-fog application and helping the customers accelerate the time-to-market of the new PE food packaging film.

As a renewable polyglycerol ester made from vegetable oils that are not competing with food or feed sources, Einar® 611 has been developed as a highly effective replacement for conventional anti-fog chemistries, such as glycerol monooleate or sorbitan esters, in demanding PE film formulations designed for sensitive food packaging. With anti-fog performance matching or exceeding that of non-vegetable fossil-based incumbents, it delivers excellent results in LDPE and LLDPE as well as coextruded and laminated PE film at low loading levels (typically 0.2% to 0.4%) for both cold-fog and hot-fog applications. Moreover, it has proven itself as an ideal additive in PE masterbatches and shows no adverse effects on the mechanical, optical or barrier properties of the film, while offering high heat resistance and low volatility. The bio-based anti-fog surfactant is available in paste form.

From a perspective of food safety, the long-lasting anti-fog performance of Einar® 611 can also make a significant contribution to the reduction of food waste by preserving its freshness. The additive supports the clear view on the packaged product, which promotes its consumer appeal over a longer shelf-life, and meets all global food-contact standards, including kosher and halal. In addition, like all of Palsgaard’s plant-based polymer additives, Einar® 611 anti-fog exhibits a superior sustainability profile across the entire value chain from production to processing. Produced in fully CO2-neutral factories, it helps PE film manufacturers, masterbatch makers and processors minimize their Scope 3 emissions[[1]](#footnote-1) and mitigate fossil depletion.

In the meantime, along with expanding its production capacities, Palsgaard continues investing in its own Scope 1 and Scope 2 [carbon-neutral production](https://www.palsgaard.com/en/responsibility/csr-stories/co2-neutral-production-goal-achieved-ahead-of-schedule) processes. At Juelsminde in Denmark, the company is building a biogas plant which will be using wastewater from Palsgaard, is expected to become operational in early 2023 and will cover 10% of the required gas supply on-site. Another project scheduled to commence in spring 2023 is the construction of a 60-acres solar power plant with an annual capacity of 60 GWh, generating sufficient renewable electricity to power all future capacity expansions currently planned at Juelsminde.

These investments complement Palsgaard’s current expansions at the Juelsminde site, including a state-of-the-art spray tower to go on-stream in 2023 and multiple new reaction, distillation and esterification facilities to be completed in 2024.

Visit [Palsgaard at K 2022](https://www.k-online.com/vis/v1/en/exhibitors/k2022) in Düsselsdorf from October 19 through 26 in Hall 7, Level 1, Booth D20 to learn more about all these activities and discuss the sustainable benefits and superior performance of the company’s plant-based polymer additives for your business.

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**About Palsgaard A/S**

Palsgaard is a world leader in plant-based emulsifiers and polymer additives for the global food, packaging and plastics industries. Since its founder Einar Viggo Schou invented the modern plant-based food emulsifier in 1917, the company has provided advanced industry know-how and innovation to an increasingly diversified customer base. From application centres around the world, Palsgaard’s experienced technologists support brand owners and manufacturers in optimising their sustainability by the use of natural, renewable ingredients and additives to mitigate their carbon footprint.

Palsgaard helps manufacturers grow and protect their brands by meeting consumer and regulatory demands for greater responsibility. The company is currently the world’s only commercial source of fully sustainable emulsifiers and additives based on RSPO SG-certified palm oil as well as rapeseed, sunflower, and other vegetable oils. All products are non-GMO, have full EU and FDA food contact approvals, and also meet halal and kosher requirements.

The company’s food emulsifiers and emulsifier/stabiliser systems have a long history of adding to the quality and shelf-life of bakery, confectionery, condiments, dairy, ice cream, and margarine products. At the same time, they can significantly improve the taste, mouthfeel and texture while using fewer resources. Palsgaard’s plant-based polymer additives, including anti-fog and anti-static formulations for food and other packaging, build on this expertise and are rapidly emerging as highly effective and sustainable alternatives to conventional petrol-based additives.

Palsgaard, with headquarters in Juelsminde, Denmark, is owned by the Schou Foundation and has 653 employees across 17 countries. The company operates plants, sales offices and warehouses across four continents. All of their six production sites in Denmark, the Netherlands, Mexico, Brazil, China and Malaysia are carbon-neutral. In 2021, Palsgaard achieved a turnover of USD 260 million (DKK 1.7 billion) with products sold to customers worldwide in more than 120 countries.

Learn more about the company’s product and service portfolio at [www.palsgaard.com/polymers](https://www.palsgaard.com/polymers).



Einar® 611 bio-based anti-fog surfactant from Palsgaard has been successfully specified by a major Korean supplier of a new food-grade polyethylene (PE) film solution designed to effectively protect the packaged food from spoilage by preventing the formation of condensation droplets on the inside of the film. (Photo: Palsgaard A/S)

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Alternatively for very high resolution pictures please contact Stephanie Wakkee

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1. According to the Greenhouse Gas Protocol, Scope 1 refers to direct emissions from production processes, Scope 2 to indirect emissions from energy use, and Scope 3 to all other indirect emissions, such as from material supplies, packaging and transportation. [↑](#footnote-ref-1)